

CALFED Bay-Delta Program
Geographic Scope for Problems and Solutions
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Introduction

The appropriate scope of analysis and action for the CALFED Bay-Delta Program (**Program**) is a crucial element which required the early attention of the Program Team and the Bay-Delta Advisory Council (BDAC). A conceptual version of the more comprehensive "geographic scope" presented below was first introduced at the June 29, 1995 BDAC meeting. The following form has evolved through the discussions and modifications provided at three public workshops and an equal number of BDAC meetings. The Program Team believes that an appropriate geographic and issue scope is essential to the success of the Program, and therefore solicited this level of public review. A scope that is too narrow, while expedient, may result in issues not being addressed in a comprehensive fashion. A scope that is too large may result in an overly complex planning process causing difficulty in developing solutions that can be implemented.

The approach which has evolved through these discussions is a tiered geographic scope that focuses on the Bay-Delta System for problem definition, but allows solutions to come from a much broader area. The specifics of the geographic scope adopted by the Program are presented below.

Geographic and Issue Scope for Problems

The geographic scope for the Program consists of the legally defined Delta, Suisun Bay (extending to the Carquinez Strait) and Suisun Marsh. In this discussion paper this geographic area will be called the "Bay-Delta System" or the "Bay-Delta."

The Program will address problems manifest in or closely linked to the Suisun Bay/Suisun Marsh and Delta area. However, the scope of possible solutions may encompass any action that can be implemented by the CALFED agencies or can be influenced by them, regardless of whether its implementation takes place within the Delta/Suisun Bay/Suisun Marsh area (see Figure 1).

Any problem currently associated with (1) the management and control of water, or (2) the beneficial use of water within the Bay-Delta¹ (including both environmental and economic uses) is within the purview of the Program provided that at least part of the problem is manifested within the Bay-Delta or is directly associated with conditions within the Bay-Delta. This general definition is further illustrated by two general (and overlapping) perspectives: (1) the Bay-Delta is a region in its own right; and (2) the Bay-Delta is one piece of a complex and interconnected water/biological system.

¹The California Code of Regulations, Title 23, Sections 660 - 674, lists a number of beneficial uses of water in California. Beneficial uses which are relevant to the identification of Delta problems are: Domestic Uses; Irrigation Uses; Municipal Use; Industrial Use; Fish and Wildlife Preservation and Enhancement Use; Aquaculture Use; Recreational Use; Water Quality Use; and Heat Control Use.

The Bay-Delta is a region in its own right. Viewed without reference to the outside world, the Bay-Delta has many characteristics, and most of the problems associated with these characteristics fall under the aegis of the Program. For example, the problems manifested within the Bay-Delta and therefore are part of the problem scope include maintaining fish and wildlife habitat, providing flood protection for land use/farming, providing for continuing recreation, protecting resident fish, plant and wildlife species, protecting In-Delta municipal and industrial water uses, and protecting Delta infrastructure.

The Bay-Delta is one piece of an interconnected water/biological system. Many things, from water and water quality constituents to fish and birds, move across the boundaries of the Bay-Delta. Problems which are identified with these various "inputs" and "outputs" fall under the aegis of the Program provided that at least part of each problem is manifested in the Bay-Delta or is directly associated with conditions within the Bay-Delta.

During the BDAC and public review period some issues were raised relating to the specific treatment of problems associated with San Francisco Bay. These issues revolve around whether the Program will address (1) interactions between the Delta and San Francisco Bay such as flow or sediment, and (2) export and diversion service area water management (e.g., water conservation). As explained earlier, the Program will address such problems with respect to San Francisco Bay, by examining the "inputs" and "outputs," from the Bay-Delta problem area. Thus, under the adopted approach, "outputs" such as flow or sediments needed to protect the rest of the Bay are within the scope of the Program; however, problems which originate outside of the problem area -- such as toxic discharges into the South Bay -- are not. With respect to water management, the output of water from the problem area through diversions has been identified as a problem. Consequently, part of the solution to that problem may be changes in the way water is managed (i.e., demand management, alternative supply development, etc.).

The lists below identify examples of inputs and outputs which are either manifested in, or directly associated with, the Bay-Delta and which may trigger the identification of a problem within the purview of the Program include:

INPUTS

Inflow patterns
Toxic inflows
Salinity inflows
Nutrient inflows
In-migrating fish
In-migrating birds
Temperature inflows

OUTPUTS

Delta outflow patterns
Toxic outflows
Salinity outflows
Nutrient outflow
Out-migrating fish
Out-migrating birds
Temperature outflows
Water diversion patterns
Water quality constituents in diversions
Entrainment of biota in diversions

The following examples are of problems which would be outside the purview of the Program because they fail to qualify as either manifest in, or directly associated with, the Bay-Delta.

- Problems caused by discharges from wastewater treatment plants in the South Bay.
- Land subsidence in the Central Valley.
- Populations of fish in reservoirs outside the Bay-Delta.

Geographic and Issue Scope for Solutions

In contrast to the *Problem Scope*, which excludes problems not manifested within or directly associated with the Bay-Delta, the *Solution Scope* is quite broad, potentially including any action which could help solve identified problems. Thus, the geographic scope for solutions may expand to include at least the Central Valley watershed, the Southern California water system service area, and the portions of the Pacific Ocean out to the Farallon Islands.

An expanded solution scope is necessary because many problems related to the Bay-Delta are caused by factors outside of the Bay-Delta. An expanded solution scope also is desirable from a planning viewpoint because more benefits may be generated at lower cost if solutions are not limited to the geographic Bay-Delta. For example, the problem of salmon populations is linked to the Bay-Delta because of high salmon mortality during salmon migrations, but the broader problem of salmon populations goes beyond the Bay-Delta. One solution might be to reduce salmon mortality during salmon migration through the Bay-Delta; however, it might be less expensive or ecologically preferable to combine that solution with an effort to promote greater salmon production upstream.

Similarly, water-borne organic carbon generated within the Bay-Delta may be a problem because it may form carcinogens during water treatment processes. Solutions could include reducing production of organic carbon within the Bay-Delta or shifting the diversion point. Alternatively, water exporters may be able to improve water quality in a more cost-effective or ecologically preferable manner through new treatment technologies or a combination of the actions mentioned above.

Solution Priorities

The Program cannot fully solve every problem within its purview. Therefore, the Program will assign priorities to various problems and give highest priority to problems (as defined above) which are acute, of broad concern, closely related to the Delta as a region or as an element in an interconnected water/biological system, and which have solutions which can be implemented by the CALFED agencies. Other problems will receive lower priority.

The Bay-Delta is an ecological zone of major importance and a major element in an interconnected biological system (e.g., it is a migration corridor of the Pacific Flyway); therefore, the problem of the Bay-Delta's environmental health, including inputs to and outputs from the Bay-Delta, will receive high priority. The Bay-Delta also is a key element in the State's water supply system and, consequently, problems with unsatisfactory water diversion patterns (volume and quality) will also receive high priority.

Dealing with the Impacts of Possible Solutions

The Program is charged with developing solutions to a number of identified Bay-Delta problems. Each possible solution to Bay-Delta problems, in turn, may have additional impacts, both within and outside the Bay-Delta (whether positive or negative). The Program will analyze carefully the possible negative impacts of various Bay-Delta solutions as part of the environmental review process and will take those impacts into consideration when developing viable alternatives. Where impacts remain, the Program will develop mitigation measures as required by the environmental review process. A key principle which will be followed is that solution alternatives cannot create significant negative redirected impacts. That is, when the benefits and impacts of the solution alternatives are examined in their entirety, the balance must be positive for all of the interests depending upon the Bay-Delta System resources.

Integration with Other Processes

The Program does not operate in isolation. Several other programs already exist to address some of the problems and solutions within the purview of the Program, particularly in the upstream areas. The Program will assess the degree to which existing processes are successfully dealing with problems from the perspective of the Program. Where existing processes are adequate, the Program may establish a link between the existing process and the proposed solution alternatives. Where existing processes are inadequate either because of lack of funding or other institutional constraints, the Program may need to include recommendations to improve existing processes, include new actions in its various alternatives, or mobilize the CALFED agencies to advance the existing processes. In this way, the Program will provide a framework that facilitates the coordination of new and existing programs to achieve a comprehensive and lasting Bay-Delta solution.

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Figure 1

Problem Area Inputs/Outputs

